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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,723	10/01/2003	Susumu Shimotono	IBM1P050/JP920020150US1	4861

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EXAMINER

MERCEDES, DISMERY E

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/677,723

Applicant(s)

SHIMOTONO ET AL.

Examiner

Dismery E. Mercedes

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8, 22 and 28 is/are pending in the application.  
4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-13, 15-21, 23-27 is/are allowed.
- 6) ☒ Claim(s) 1-8, 22, 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. The amendment filed March 23, 2005 has been fully considered and entered.
2. Applicant's arguments with respect to claim 1, 22 & 28 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1,2-4,6, 22, 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Kikuta et al. (US 2002/0027733 A1).

Kikuta et al. discloses a magnetic disk protection mechanism, comprising: an information acquisition mechanism for acquiring information about an environmental change of a magnetic disk device (as depicted in Figs 1-3, “use environment data user setting” & page 2, [0012 & 0015], page 3, [0031]; a shock prediction mechanism for analyzing the information acquired by said information acquisition mechanism together with a history thereof, and for determining a status of where said magnetic disk device is used, so as to perform a shock prediction (as depicted in Figs 1-3 “generated history controller/manager”, and page 3, [0030, 0037]), a control mechanism for controlling

Art Unit: 2651

operations of said magnetic disk device including a magnetic head escape operation based on a prediction result by said shock prediction mechanism (as depicted in Fig.1-3 and Fig.7, “R/W operation inhibition signal”, page 2, [0026], page 5, [0058]).

As to Claim 2, Kikuta et al. further discloses further discloses a variation in the status where said magnetic disk device is used falls within a specified range for a specified period, said shock prediction mechanism does not predict that a shock will be caused by the variation in the status (page 1, [0007-0008], page 5, [0057-0058], and as depicted in Figs 3, 5-8).

As to Claim 3, Kikuta et al. further discloses discloses if the status of where said magnetic disk device is used varies in a predetermined pattern, said shock prediction mechanism predicts that a shock will be caused by the variation in the status (page 1, [0008], page 5, [0057]).

As to Claim 4, Kikuta et al. further discloses shock prediction mechanism predicts a shock with reference to a history of input operations provided by a predetermined input device (as depicted in Figs 1-3 & 8 and page 3, [0030, 0037], page 5, [0057]).

As to Claim 6, Kikuta et al. further discloses if said shock prediction mechanism determines that said magnetic disk device is stable, the shock prediction mechanism notifies said control mechanism that said magnetic disk device is stable, and said control mechanism returns said escaping magnetic head in response to said notification wherein said shock prediction mechanism adaptively determines whether or not said magnetic disk device is stable based on a history of the information acquired by said information acquiring mechanism before a shock is predicted to occur (page 5, [0052-0053; 0057] and as depicted in Figs 3 & 5)

As to Claim 22 & 28, are drawn to the method of using the corresponding apparatus claimed in claim.1, and therefore is rejected for the same reasons as set forth in the rejection of claim1, supra.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5,7,8 rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuta et al., in view of Ishiyama et al. (2003/0067705 A1).

As to Claim 5, Kikuta et al. discloses the magnetic disk protection disk protection mechanism of base claim1, but fails to particularly disclose information acquiring mechanism acquires information on acceleration of said magnetic disk device, and said shock prediction mechanism recognizes the status where the magnetic disk device is used based on the acceleration information acquired by said information acquiring mechanism.

However, Ishiyama et al. is relied on for disclosing such (see abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement a mechanism as disclosed by Ishiyama et al. into the mechanism disclosed by Kikuta et al., the motivation being because it would provide Kikuta's mechanism with the enhanced capability of determining whether or not a head needs to be retracted based on dynamic acceleration signals corresponding to a shock (page 1, ¶0011, lines 9-10 of Ishiyama et al.).

As to Claim 7, Ishiyama et al. further discloses wherein said information acquisition mechanism is coupled to a housing in which the magnetic disk device is housed (as depicted in Fig.1, [0033-0034]).

As to Claim 8, Ishiyama et al. further discloses if said magnetic head has escaped, said control mechanism holds a new access request to the magnetic disk device in an internal queue instead of realizing the access request until said shock prediction mechanism determines that said magnetic disk device is stable (page 4, ¶0064, lines 7-9).

***Allowable Subject Matter***

1. Claims 9-12, 13, 15-16, 17-19, 20-21, 23-25, 26-27 are allowed.

Claims 9 is allowable over Prior Art of Record, since the cited references taken alone or in combination do not teach or suggest said status determination mechanism determines that there is a high probability of excessive shock to said magnetic disk device, said control mechanism divides an access request to said magnetic disk divides into access requests with a small data size per access and transmits the access request to said magnetic disk device.

Claim 13, allowable over Prior Art of Record, since the cited references taken alone or in combination do not teach or suggest wherein said diagnosis mechanism makes said determination by comparing a pre-shock period that is a time from a start of an escape operation of the magnetic head until the occurrence of a shock, with an already measured and restore escape time required for the escape operation of the magnetic head.

Claim 17 is allowable over Prior Art of Record, since the cited references taken alone or in combination do not teach or suggest a shock manager for analyzing acceleration information acquired by said acceleration sensor and a history thereof, *to predict a probability of shock* to said magnetic disk device.

Claim 20 and 23 are allowable over Prior Art of Record, since the cited references taken alone or in combination do not teach or suggest a driver for dividing an access request to said

Art Unit: 2651

magnetic disk device into access requests with a small data size per access and for transmitting to said magnetic disk device when said shock manager finds a high possibility of excessive shock to said magnetic disk device.

Claim 26 is allowable over Prior Art of Record, since the cited references taken alone or in combination do not teach or suggest a shock actually occurs after a magnetic head has started escaping, determining whether or not the magnetic head escape has been completed before the occurrence of the shock, by comparing a pre-shock period, that is a time from a start of an escape operation of the magnetic head until the occurrence of a shock, with an already measured and restored escape time required for the escape operation of the magnetic head.

### ***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kasiraj et al. (US 5,777,815); Hajji (US 6,415,189 B1); Codilian (US 6,714,371).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E. Mercedes whose telephone number is 571-272-7558. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300

Art Unit: 2651

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dismery E Mercedes  
Examiner  
Art Unit 2651

DM



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